

# THE INRICHMENT

of the VVeald of Kent:

OR,

*A Direction to the Husband-man, for  
the true ordering, manuring, and enriching  
of all the Grounds within the Wealds of  
Kent and Suffex, and may generally  
serue for all the grounds in England,  
of that nature: as,*

1. *Shewing the nature of all Wealdish grounds, comparing  
it with the soyle of the Shires at large.*
2. *Declaring what the Marle is, and the seuerall sorts there-  
of, and where it is usually found.*
3. *The profitable vse of Marle, and other rich manurings,  
as well in each sort of arable land, as also for the increase  
of Corne and Pasture through the Kingdome.*

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Painfully gathered for the good of this Iland, by a man of  
great eminence and worth, but reuised, inlarged, and  
corrected with the consent and by conference with  
the first Author. By Gervase Markham.



LONDON,

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golden Unicorn in Pater-noster-row. 1631.

# THE MUSEUM

of the History of Man

and the Progress of Civilization

in the British Museum

of Natural History

of the British Museum

of the British Museum

of the British Museum

of the British Museum

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To the Honourable Knight, Sir  
George Rivers of Chafford, in the  
County of KENT.

SIR



Ad I no scale (more then this bare  
and plaine moulded Epistle) by  
which to come to your worthy eares,  
yet in respect of the honest Livery  
which it carries (being necessary  
and husbandly collections, especially gathered for  
the Countrey and Soile wherein you live) I know,  
it cannot chuse but finde both fauour and mercy in  
your acceptation; but when I call vp into my con-  
sideration, the great worthinesse of your experience  
in this and all other the like affaires, which tend to  
the generall benefit of the Common-wealth, and  
weigh the excellency of your wisdom, iudgement,  
bounty, and affection vnto hospitality (which giue  
both strength and aduancement to proiects of this  
nature)

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## The Epistle Dedicatory.

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nature) I could not but take vnto my selfe a double encouragement, and boldly say vnto this worke which I offer to your goodnesse; Goe and approach with all thy sweetnesse before him, he that so perfectly knowes all which thou canst or wouldst discover; he that is able both to correct & amend any thing that is imperfect in thee, hee, for vertues sake, will neuer forsake thee. Beleeue me (worthy Sir) should this subiect wish it selfe a Patron, I doe not thinke, it could wish beyound you; for you are a volume full of all that of which it intreateth: witnesse your Yeeres, your place, your supportation of the poore, and your continuall employments; with any of which, there is not (of your Ranke a second living in your Countrey, to walke hand in hand with you, Being then (deare Sir) the oldest and best friend to your Countrey; forsake neither her, nor this which comes to serue it; and though in this Glasse some lineaments may appeare imperfect, yet by the helpe of your fauour (though little be exact or most excellent) nothing shall be grosse or unworthy the survey of your worshier patience. And so I rest.

Yours to be commanded.

Geruase Markham.





*A discourse of the Weald of Kent; and a comparison of the arable Lands therein, with the other parts of the Shires Together with some necessary counsels for the ordering and enriching of the Marleable Lands in the Weald, or generally in any part of this Kingdome.*



HE Weald of Kent is the lower part of that Shire, lying on the South side thereof, and adioyneth to the Weald of *Sussex*, towards the West. Further additions.

This Weald both in *Kent* and *Sussex*, was sometimes all (or the most part) woody, wilde and (in the first times) uninhabited; and from thence tooke the name of Weald from the *Saxon* word, *Weale* or *Teale*, or *Weald*, which signifieth a woody countrey, or Forrest-like ground. The *Brittans* called it *Andred*, which signifieth Greatnesse or Wonderfull, and in *Latine* it was called *Saltus Andred* (that is to say) the Chase or Forrest of *Andred*, by reason of the great circuit, or large bounds thereof.

Touching the true boundary or limits of this Weald, there haue bin diuers opinions, and most of them various and much differing both in place and quantity; but that which is the neereft and best allyed vnto truth, both according to the opinions of *Affertus Meneuensis*, *Henry of Huntingdon*, & others of most credible report, is; that it extendeth from the city of *Winchelsey* in *Sussex*, an hun-

dred and twenty miles in length towards the West; and 30 miles in bredth towards the north. Now, although this report be most agreeable vnto verity, yet who knowes not, that curiosity may raile vp many obiections to withstand it; & therefore *M. Lambert* in his Perambulation of *Kent*, hath prescribed the best & most infallible way to find out the true and certaine bounds of this Weald, to be onely by Iewry, or the verdict of 12 men impannelled for that purpose; either in case of controuersie, or other particular search; and this hath bin in these latter times brought forth most plentifully, for it hath beene found by diuers late verdicts, vpon speciall and most necessary occasions, that the Weald of *Kent* is truely *M. Lamberds* second step in his Perambulation of *Kent*, reaching from *Winchelsey* in *Sussex*, and that hill there, vnto the top of *Riuers* hill in *Kent*; and neither farther towards *London*, nor shorter towards *Tunbridge*; which agreeth so perfectly with the former limitations, that both may be receiued as most true and sufficient.

This Weald was for many yeares held to be a wild Desert, or most vnfruitfull Wildernesse (as write the Authors before mentioned) & indeed such is the nature and disposition of the soile thereof to this very day: for it will grow to frith or wood, if it be not continually manured and laboured with the Plough, and kept vnder by tillage, so as it may truely be said of it, *Inculta parantur vomere Silue*. It is throughout (except in very few places adioyning to brookes or riuers) of a very barren nature, & vnapt either for pasturage or tillage, vntill that it be holpen by some manner of comfort, as dung, marle, fresh earth, fodder, ashes, or such other refreshings; and that seemeth to haue beene the cause for which in olde time it was vsed as a Wildernesse, and kept for the most part



part with heards of deare, and drones of hogs, as is specified in diuerse historicall relations.

And as there be yet remaining in *Sussex* diuers great forrests, and sundry commons or waits, hauing five or six miles in length, which for the most part are not fit to be manured for corne, and yeeld but little profit in pasture; so haue there bene also in *Kent* (within our memory) a great number of woody and ouer-growne grounds, conuerted of late to pasture & tillage, euen after such a manner as in the said Perambulation is testified, where it is said, that although the weald of *Kent* belonged to sundry known owners long since, yet was it not then allotted into particular Tenancies, as the other parts of the shire were, but it was, in processe of time, by little and little gained, as men were contented to inhabit there, & to rid it of the wood; And hereof it is also, that besides sundry whole parishes which be named dens or low places, as *Tenderden*, *Marden*, *Beneden*, and sundry others, there be moreouer many smaller portions, almost in euery part of the weald of *Kent*; which he likewise called dens, as the den of *Cranbrooke* in *Cranebrooke*; the den of *Hawkehurst* in *Hawkehurst*, and such others; the which (as it seemeth) were at the first vndertaken to be manured by sundry particular persons, whose names were then taken from those very dennes, and continued many yeares together, as by ancient euidences it doth yet appeare, howsoeuer the age of long time hath now almost worne & consumed them all out of knowledge. Neither doth the weald of *Kent* containe so many great manors or courts (for the proportion of the largenesse) as the rest of the shire doth, but was appertaining, for a great part thereof, to sundry of those mannors which do lye at large dispersed thorow the shire, whereof each one

had a great portion in the Weald, which both in the booke of Domesday, and in sundry the court rolls, and rentals, passeth by the name of Weald, and *Silua Percorum*, or swine gats, which were granted to diuers of the farmers & owners of sundry tenancies, which did belong vnto those denues, and other lands within the Weald.

And albeit these dens be for the most part good large portions of lands, that be now broken into many seuerall possessions, so as the same one Denne sufficeth 20. householders at this day, yet is it very likely that each man at the first had his seuerall den wholly & vnbroken, whereof he & his posterity beareth name, vntill that the same was by the custome of *Gauilkind*, by sale or by exchange diuided & distributed amongst others into parts, as we do now see them. But howsoever this Weald be of it selfe vnfruitfull (as I said) & of a barren nature, yet so it hath pleased the prouidence of the Almighty to temper the same, that by the benefit of Margle or Marle (as it is commonly called) it may be made not onely equal in fertility with the other grounds of the shire, as well for corne as grasse, but also superiour to the more and greater part of the same. The which manner of bettering the ground is not now newly discovered, but was the ancient practise of our fore fathers many yeares agoe, as by the innumerable Marle-pits digged & spent so many yeares past, that trees of 200 or 300 yeares old, doe now grow vpon them, it may most evidently appeare, besides the which we haue mention of Marle in books of gainage or husbandry, that were written in the days of K. Edward the 2. or before, howbeit the same manner of tillage, by meanes of the ciuill warres, maintained many yeares as well in the time of the Barons warres, as of the wars betwene the house of *York* and the family of *Lancaster*,  
was

The vse of  
Marle is an-  
cient.

Marling was  
discontinued,  
and is now re-  
stored.



was so giuen ouer, and gone out of vse, vntill these 30. or 40. yeeres, that it may be said to haue beene then newly borne and reuiued, rather then restored, because the very true art of enriching the ground by *Marle*, seemeth to lye hidden in part, as yet not to be discovered to the full: for in this short time we haue seen many arable grounds, which for sundry yeeres after the marling of them, haue plentifully borne Wheat & other Graine, to be now become vnfruitfull, and so will they continue, albeit they should be now marked againe. And this commeth to passe by the ignorance of the right manner of ordering the *Marle*, which is as strong & chearfull as euer it was before, howsoeuer it worketh not his naturall effect, through the vnskilfulnes of the Husbandman, that both wasteth the *Marle*, and loseth withall his time, his labour, his cost, and the profit of his ground. I cannot deny but a man shall see some grounds, of nature fit to take *Marle*, and of situation so neere to *Marle*-pits long time opened, that they might be marled plentifully with little charge, and haue beene heretofore marked indeed, & yet the same to lie now vnploughed, and not onely barren of themselves, but also vnapt for *Marle*, and vn capable of amendment by Tillage: but, I must say withall, that albeit the men in those former Ages had the right ordering of *Marle*, yet were not they all good Husbands alike, neither doth the Field ioy alike vnder the Farmer, and vnder the very Owner of the same, the one seeking the very vttermost gaine that may be made during his short interest, and the other indeauouring to perpetuate his commodity, euen to the end of his estate, which hath no end at all, so that through vnskilfulnes of the one, and greedines in others, the ground may sooner be crammed to death with *marle*, then it shall be made the better or

fatter by it. The reason whereof I will reserve, vntill that I haue cause to teach in particular, after what manner and measure the ground is to be marled. In the meane-while, I will open the nature and conditions of this wealdish ground, comparing it with the Soyle of the shire at large, and afterward declare vnto you what the *Marle* is, and what sorts thereof, there be vsually found in the Weald of *Kent*; and lastly, enter into the true and profitable vse thereof, as well in each sort of arable Land, as also for the increase of Corne and Pasture thorow the Kingdome.

The arable ground of this Weald hath commonly a fleet and shallow mould to be turned vp by the Plough, so as in many places the dead Earth or Mould is within three inches of the face of the ground, & in the best places, the good Mould exceedeth not sixe inches in depth at the most, & therefore it wanteth conuenient substance to nourish Corne any long time, but will faint and giue ouer, after a Crop or two; for the which reason also, it cannot yeeld any sweet or deepe Grasse. Besides this, the Weald hath many copped or hillish grounds, out of which there doe many Quits or Springs of water issue, that make it cold & barren; and from these Hillocks, the best part of the good Mould is washed downe into the Water-courses and Dikes that be made to diuide and draine the Land. Furthermore, the Weald is diuided into many small inclosures, the biggest sort (for the most part) of which, are betweene sixteene Acres and twelue in quantity, and thereby hath it many Hedges & Trees, which in vnseasonable weather do keepe both the Sunne and Winde from the Corne, so as for want of that succour and comfort, it groweth, and many times rotteth in the Earth, so that it carneth not, nor careth, nor prospereth.



reth not kindly many times. And these small Closes are caused by this, that men are not able to marle any great part or quantity of ground at once; and hauing marled a little, they are desirous to sow it with corne: for the preservation whereof, as also for draining it, they are inforced to make so many and small seuerals: for all which reasons it is plaine, that there is little good arable Land there, and rarely any good Pasture, those only places excepted, which are amended by irrigations of flouds, which there is called flowing and ouerflowing. Contrariwise, the arable land of the Shire at large, hath a deepe and fat Mould of good Earth, that is able to beare fiue or fixe good Crops together without intermission; and after three or foure yeeres rest, will doe the like againe, & may so interchangeably keepe that course for euer: yea there be many grounds that are sowed without ceasing, because the Mould is so deepe, that when the vpper part thereof beginneth to faint and be weary, men can adde some strength of Cartell, and with the Plough goe deeper, and fetch vp a fresh mould that will continue for a long season. Furthermore, this arable ground is a hollow dry ground, for the most part, on a deepe Clay, that by tillage, and the weather, will become dry, and spongy, so as the Raine there washerh in the fat of the earth, the rather, because it is not so hillish and sliding as the Weald, but more leuell, even and champion also, by which the Sunne and Winde doe dry the Corne, and doe make it both carne or eare well, and yeeld a purer flowre then that which is sobbed in wet, and hath long time lye before it be dried againe. But forasmuch as the great odds between these two sorts of grounds, may be made even by the helpe of *Marle*, if it be rightly ordered, as I said I will now shew you what it is, and how many sorts

thereof be found in this Weald of our countrey. *Marle* is indeede, as it is in name, the fat or (marrow) of the earth: for so did the *Germanes*, and so did our elders the *Saxons*, terme it, of the word *Marize*, which we found *Marrow*, & thereof we call it *marling*, when we bestow that fat earth vpon our leane ground. *Pliny* saith, That the *Brittans* (meaning vs) did vse to amend their Land with a certaine inuention which they called *marga*, that is, the fat of the earth, and it is to be seene in *Conradus Heresbachius*, that the *Germanes* do vse it to the same end, and do call it by the same name till this very day: it is therefore a fat, oily and vnctious ground, lying in the belly of the earth, which is of a warme & moist temperature, and so most fertill. seeing that heat and moysture be the father & mother of generation and growth; howbeit this is not a pure & simple marrow (as that is which lieth in our bones) but a iuice, or fat liquor mingled with the earth, as is the fat which lieth mixed, and dispersed in our flesh, so as the one may be drawne away, and the other remaine, as it shall anon appeare vnto you.

Four sorts of  
Marle.

- |    |    |   |
|----|----|---|
| 1. | 2. | Four sorts of <i>marle</i> be found in this weald, knowne afunder by the difference of colors, and thereby also differing in degrees of goodnesse one from the other: for there is a gray, a blew, a yellow, and red <i>marle</i> , all which be profitable, if they be earthy & fat, or slippery as soape: and most times little worth, if they be mixed with sand, grauell, or stone. So the blew is reputed the best, the yellow the next, the gray the next, and the red lesse durable then the other three; and yet it is thought the red to be the better, if it be found vpon the blew or others. These <i>marles</i> do lye in veines or floores, amongst those hillocks or copped grounds most commonly, whereof I haue spoken, and do oftentimes shew themselves. |
| 3. | 4. |   |



selues at the foote of the hill, or about the mid-way betweene the foot and the top thereof: some of them haue ouer them a couer of ground, which we call Cope, not exceeding seuen or eight foot in depth; some lie deeper, and other some do arise, as namely, where the ground lieth not high, and that *marle* commonly is very good; and there is in diuerse lueell grounds good *marle*.

And as *marle* is for the most part of these foure colours, so is arable ground for the most part of these foure sorts following; that is to say, either a cold, stiffe and wet clay, which is either the cope of the *marle*, or lieth neere vnto it, and is therefore commonly called, *The marle cope ground*, or a haifell mold, which I count to be one of the best wealdish molds, being a compound mould, and very good for *marle*, and will quit the cost very well. Then are there two sorts of sandy mold, the one being a reasonable good kind, but not equall to the haifell mold, for you shal haue in diuers places of the weald this haifell mold to beare two or three good crops of wheat being Sumner-fallowed, together, which you shal hardly haue of any sandy ground without mending: but as I sayd of the better sort of these two kinds of sandy molds, you haue commonly very rich wheate, being weil marled, which is not so barren as the other; but this last kind of sandy mould, is a very barren kinde of ground, and hath a very flete mold, and you shall haue very heath grow vpon it in diuers places, and yet being ordered as followeth with *marle*, will beare both good corne and pasture. And now that we may the better vnderstand how to marle and manure euery of these sorts by it selfe, you must know that the haifell ground being dry, and not subiect to Winter springs, or teares of water (for, which some call such, A whining or weeping ground)

Foure sorts of grounds;

1.

2.

3. 4.

The ordering  
of the Hailell  
mould.

ground) is to be handled thus.

First, plough it as deepe as you can, with the strength of eight beasts at the least; and be not afraide to plough vp some part of the dead earth that lieth vnder the vpper good mould, for the Sunne, the raine, the wind, and the frost, will in time mellow and amend it; and besides that, the mould: will be the deeper for a long time after, and thereby keepe it selfe the longer from being stiffened with the *Marle*. Then may you bestow 500. cart-loads (as we call them) of *marle* vpon each Acre thereof, euery load containing 10. or 12. Bushels of eight gallons, and each Acre containing 160. Rods of 16. foote and a halfe to a rod. Then also you may chuse whether, at the first breaking vp, you will sow it with Oates, to kill the grasse, or else first marle it, and sow it with wheate, or otherwise Summer-fallow it in the *May* after the oates, and then marle it, and sow it with wheate. Vpon that fallow or gratten (as we call it) you shall doe well to sow it with pease, and at *Michaelmas* following, to sow that Pease stubble or Gratten with wheat againe, which also will be the better, if the Summer wherein it carried Pease, were moyst, because the pease being rich and thicke, do destroy the grasse, that together with the washing of the fallowes by raine, doth greatly consume the hart and vertue; or, as we call it, the state of the ground. But if that Summer were dry, then is a fallow best, because the Sunne with his heate doth much good to the ground, and inableth it the better to beare out the weather in the Wheate season ensuing. If you like to sow it, as I sayd, with pease, sow them as earely and timely as you may, for they will be so much the sooner haruested, and then also you may plough or stir your Gratten the sooner, whereby it will be the better hardened to beare out



out the weather in the time of sowing of your wheate: but I doubt, Pease doth somewhat stiffen it. Two bushels of Wheate do suffice for the sowing of an acre hereof, except it be for the first crop, after the new breaking vp of the ground; during which time, there is found a worme, called an *Emble*, which in *French* signifieth corne in the ground, being of colour yellow, and of an inch in length, and will eare some part of the corne; but if you sow it thicke, it will be both small eared & thicke, and slender of straw, which the raine & wind will beare and hurle downe, and then it will scarcely rise againe; or if it do, yet through the neerenesse of the shadow of the trees and hedges, that in so small closes be many, it will rather rot for want of drying, then come to maturity, that is, to perfect hard, and full growne corne. After your first marling, you must carefully foresee, that you plough not this ground either with deepe or broad Furrowes, but flete and narrow, lest you cast your Marle into the dead mould; for marle differeth much from dounge in this behalfe; dounge spendeth it selfe upward, and howsoever deepe it lye, the vertue thereof will ascend: but marle (as saith *Sir Walter Henly*, in his Husbandry) sendeth his vertue downeward, and must therefore be kept aloft, and may not be buried in any wise. Furthermore, if your ground be hillish or coppied, it shall be fit that you make your Ridges 7. or 8. foote broad at the least; for in such falling lands, the more broad furrowes you make, as you must make many, where you make Ridges, the more of your marle shall be washed and carried into the bottomes. It is good also to drawe a crosse or quarter Furrowe, and opening the endes of your land Furrowes into it, to leaue the other endes of your Furrowes stopped, that

Note,

that the water shoot run not all the length of the field. Againe, this ground would alwaies be sowne vnder furrow, and that also before *Michaelmas*, if the season will so permit: for this ground (if it be well husbanded) will be mellow and hollow, or loose, whereby through Raine and Frost, it would sinke downe from the roote of the Wheat; if it should be sowne aboue Furrow, the which being vncouered, must needs be bitten and killed with the cold. It is also very fit that you harrow not this sort of ground too small, but that you leaue the clods as big as a Bowle, the which being mouldred with the frost, will both couer and keepe warme what is vnderneath. Moreouer, it shall be good, that vpon some faire, and dry day, in the beginning of *March*, you put your flocke of Sheepe into your Wheat, that with their trampling vpon it, the Corne may be well & fast closed with the earth; yea, & presently after (if it wil beare foot) you may roll it as you doe Barley, whereby both the Clods shall be broken, and the Gratten or stubble shall be more euen and ready for the Mower. Generally you must vnderstand, that after you haue bestowed your *Marle* in the field, you ought to let it lie vnspred abroad, vntill you be ready to plough, & then immediately after the spreading of it, turne it into the ground with the Plough; for otherwise, if it should lie long spred in the field, the Sunne will spend no small part of the fattenesse thereof, although I know many desire it, because it will be the smaller being burned with the Sun, which I like not. And therefore also no good Husband will carry and spend his dongue in the time of Summer, except he doe presently with a plough it into the ground; for although the Mould of the arable Land it selfe will take good, if it be turned to the Sunne, which will both dry and

and



and fasten it, yet the matter fareth farre otherwile with the *Marle*, from which if the Sun shall draw and sucke the fat moisture that maketh the Land fertile, then becommeth it (as *Columella* speaketh) of the worst sort of ground, *Solum siccum, pariter & densum & macrum, quod sine exerceatur, sine cessat, colono refugendum est.* It becommeth (saith he) a dry, thicke, and leane Clod, which whether it be tilled or laid to rest, must be forsaken of the Husbandman as vnprofitable. And now your Haisell mould being thus marled, ploughed, sowne, and measured, you may not charge with Wheate aboue twice, and then it must rest five or sixe yeeres together; all which time it will beare a very good and sweet Pasture, well set with a white Clouer, or three-leaved grasse, most batning and profitable, both for Sheepe and Bullockes.

After those yeeres ended, it will grow to some Mosse, or will peraduenrure cast vp Broome, and then it is time to breake it vp, and sow and handle it as before, for two other Wheat seasons or Crops, leauing it a Wheat-gratten or stubble, rather then with an Oat-Gratten or stubble, which burneth the Land being marled. Being thus interchangeably sowed and rested, your Haisell mould will continue good arable and Pasture, by the space of thirty yeeres together, whereas if it should be continually sowed, sixe, seuen or moe yeeres together without rest, it will become vtterly vnfruitfull, both for Corne and Cattell also. Neither will it any thing auaille to marle it ouer againe when it is so decayed, because the former *Marle* hauing his iuice exhausted by continuall Tillage, whereof the Corne sucketh one part, and the Sunne, Winde and Weather dryeth and wasteth the rest, is but a dead Clod (as I said) that is not capable

of new *Marle* to amend it, nor casteth any profitable grasse at all; for prooffe hereof, I my selfe, seeing that the common earth of High-waies, were by treading of Cattell, washing of Raine, and the drying of the Sunne and weather, it lay separated from that naturall iuice which it hath in the pit, and spreading it vpon the ground, I saw that the land was not onely not amended, but much the worse by it. And now for an end of handling this sort of Haisell ground; if it shall appeare vnto you, that fīue hundred loads of *Marle* vpon the Acre, haue clanged, stiffened, and too fast bound your land (as indeed the nature of *Marle* is to bind and to stiffen) then take you some of these waies to helpe it: either rest it foure or 5 yeeres, or fodder vpon it before you breake it vp with so many Cattell as you may; or take the vppermost part of your Ditches or Forelands, or waste places of your fields which you may mingle with Dongue, and which, before you sow your Wheat, you may lay vpon your fallow, and stirre it in with your Plow, and by this you shall both loosen your *Marle*, and refresh your ground, so that within forty yeers the mold of your ground will cleane eat vp & swallow the *marle* that you lay vpon it; and then become hungry, and as capeable of *Marle* againe as it was before at the first.

And by this also, you may see the very cause for which it is good not to sow your marled Land continually, but to pasture it by turnes and so giue it rest; namely, because the continuall ploughing doth exhaust and spend the fat of the *Marle*, leauing the drossie, dry, and fruitlesse parts thereof, to lye and couer the face of your ground; whereas pasturage, through the donguing, treading, and foddering of Cattell, doth increase a new Mould, which mingling it selfe with the dead Mould, doth



doth in the end giue some life and heart vnto it. And therefore these Farmours and owners that haue beene at the cost to marle their ground, and will not forbear to till it, but hasting to raise their charge, doe thereby vtterly strike it with barrenesse, are like to *Aesops* man, who hauing a Henne that layed him euery day a golden Egge, and being greedy to haue all the gold at once, did therefore kill the Henne, thinking to haue found her belly full of gold, and so was both defrauded of that he looked for, and lost also what he had before. Hitherto of the nature, ordering and marling of this Haisell ground. Generally now for the continuall fallowing and stirring thereof, you must vnderstand, it may neither be fallowed wet, least it answere more Grasse then Corne; nor yet so dry, that the dead bottome swell vp, as in great drought it will, and swallow the good Mould that lieth aboue, and therefore bind not your selfe to any precise time of any moneth, but the opportunity either in *May* or *June*, as you shall finde the weather to haue prepared it for your desire. In the like temper you ought to stirre it after a showre, after *Saint James* his day, or in the end of *Iuly*; for so will it be dry and hard before the time of sowing, whereas if it be stirred later, every small Raine will distemper it into Dirt or Mire, by reason of the tendernesse thereof, and then can you not fitly bestow your seed vpon it.

The *Marle* Cope ground followeth, which is most commonly. (as I said) a stiffe, wet, cold Clay, and not so fit as the former to be marled for Corne, except in some few fleet places thereof, but yet it may serue for Pasture or for Oates; such of them as be marled, must be fallowed fleet or shallow, lest the *Marle* be-

The ordering  
of the *Marle*  
Cope ground.

come

come drowned in the wet: then being marled, they may in dry Summers (and not ouer-moist Countries) beare Wheat in some mediocrity. Three hundred loads at the most of *Marle* are sufficient for an Acre of this kind, and two bushels & a halfe of Wheat will sow the same, which must be cast aboue Furrow fourteene or twenty daies before *Michaelmas*. It requireth round, high and narrow Ridges, and that the water-Furrowes be stricken somewhat deepe, the better to conueigh moisture from the Corne, and that it be left cloddy as much as may be: and yet to say the truth, such as will conuert this sort of ground to tillage, must provide a greater quantity of rich ground or Greet (as we terme it) and Dongue, then of *Marle* it selfe, to amend this Land withall. But if there be any ground that is light and whining, or weeping, because of Springs that are therein, and therewith doth cast vp Rushes, let that be marled vpon the Greene land with 4 hundred or five hundred loads vpon the Acre, about the latter ende of Summer; for so will the *Marle* sinke into it, and cast vp a sweete grasse for eight or ten yeeres together, and vntill that the *Marle* be sunke so low, that another sword or crust of earth be growne ouer it, and then is it fit time to plow it, but yet very fleet and narrow, for so will it beare good Oats; but if it be so wet that you cannot aduenture to sow your Wheat vpon it, because the Rushes be not killed with this first plowing, then may you sow it againe with Oats, drawing good water-furrowes to draine it, because it will be the wetter for plowing, and thereby the *Marle* also will the sooner lose his force; thus doing, let it lie to Pasture againe.

Rushes.

There be some other grounds of the *Marle* Cope, which carrie a lowre Grasse, and the Dyers Weede (com-



(commonly called Greening weed) and hauing a great tore thereof, the which also may be amended by three hundred or foure hundred load of *Marle* vpon the Acre of the greene Land: for the *Marle* will both rot the tore or vesture thereof, and also enrich the mould very much; so as it will answer good Pasture twelue yeeres after: and when you shall perceiue that the *Marle* is well funke, then may it be ploughed fleet and narrow, sowed with Oats, and fallowed; so may it both beare good Wheat, if it finde a good season, and be the richer a long time after, partly by the benefit of the *Marle*, partly by the rotting of the tore, and sword, and partly by the dung and water of the Cattell that pasture vpon it: for the sweeter the Pasture is, the more Beasts it feedeth, and the more Beasts it beareth, the more it selfe is amended by it.

Touching the fallowing of this ground, great heed is required: for as it swelleth more then the Haifell ground, if it be taken hard and dry, so it is more grassie then that, or the sandy Soyle, if you fallow it wet: The season therefore followeth commonly in *Aprill*, or in the beginning of *May*, for to fallow it, and to stirre it about *Midsummer*, or so soone after as the raine shal haue prepared it meet for your vn-shod Oxen to labour vpon it. Many men fearing to hit the right season for this ground in the Spring of the yeere, doe make it ready by a Winter fallow before *Christmas*, and by stirring it before *Midsummer*, if they may; which manner is not to be disliked.

Lastly, commeth the two sorts of sandy ground, and grauelly mould; the one being to be ordered much after the Haifell mould, sauing he would haue somewhat more *Marle*, and also would be fauoured more in the

The ordering  
of the sandy  
Moulds.

often tillage, then it: for the Haisell Mould will beare or endure more tillage then the Sand. But this last sort of sandy ground, being a very staring Sand (as we vie to call it) for much of it will beare Heath, being of it selfe very barren, and very fleet or shallow Mould, and ouer hot and dry, and by reason of that extremity, is vnfertill, except it be marled very plentifully. And therefore when you breake vp this ground, plough it as deepe as you may, not fearing to cast downe the best Mould thereof, because the *Marle* will pierce thorow, and sinke downe into it. An Acre of this ground requireth five hundred or fixe hundred loads of your *Marle* at the least. Sow alwales vnder-furrow about *Michaelmas*, with two Bushels and a halfe vpon the Acre, which it will better carry then the Haisel ground: for although the Straw be small, yet will it be harder, and stand better then that of the other. The worme whereof I speake, will be busie with that, that groweth on this sort of ground, vntill that the heat thereof be somewhat asswaged by the *Marle*. If your ground be hilly, make your Water-furrowes in such sort, as I haue said before, for the sauing both of your *Marle* and Mould; harrow it very little, leaue it as cloddy as you may. After that you haue taken a Crop from it, fallow that Wheat Gratten or Stubble in *May*; after that sowe it also, and then about *Michaelmas*, sow it with Wheat againe: for it is not yet rich enough to beare you good Pease. This done, let it rest foure or five yeeres, and if it send vp any plenty of Broome, cut or pull them when they be of some meane bignesse, but plough not the ground, vntill it haue taken such rest; and after it, you may well breake it vp of new, and sow it with Oats: which Oate Gratten or Stubble, you



you must Summer-fallow, when it is at the Haruest; and then if you desire to haue it in good heart, you must marle it with three hundred or foure hundred loads vpon the Acre againe. After this Crop thus taken, rest it five or sixe yeeres, and then take one Crop more of Oates from it, and after a Summer-fallow, sow it with Wheat, and suffer it to lye a Wheat Gratten or Stubble, till it shall haue rested as before, is appointed for the Haisill ground, and so will it be the better thirty or forty yeeres after the marling. Wee haue in this Weald a sandy and grauelly ground that is wet and weeping, the which is scarcely worth the marling except the neerenesse of the *Marle*: and thereby the small cost and charge thereof, may intice a man to bestow the cost vpon it with *Marle*, and then the best way is to marle vpon the greene Land, or vpon a fallow, with five hundred loads or more vpon the Acre, or rather to take the profit thereof by Pasture then by Tillage: for it will hardly beare good Corne, which is soone killed with the wet vapour that is continually sent vp from the wet Springs that lye vnder it. This sort of ground is to be fallowed, when it is both hard and dry, because it swelleth not as doth the Haisill Mould, and may therefore be taken in *June*, if former faire weather bring it not to a dry season; and it is to be stirred also after a showre, in the like plight as the Haisill mould before. Your marleable grounds being ordered in this wise, seuerally set downe for each kinde of them will continually stand fruitfull either for Corne or Pasture: and albeit the high prices which Corne hath of late yeeres carryed, may allure some men to sow Corne incessantly, and thereby to spend their *Marle*, and to choke their arable in the

end, yet I doubt not but the wiser sort can see that it is much better to maintaine their grounds hearty and in good plight for euer, then to rayse a short gaine, that will bring a long and perpetuall losse vpon them, the rather also, becaule that Butter, Cheese, and the flesh of Beefe and mutton, be aduanced in price equally, if not beyond Wheat, Rie, Barley, and the other Graines. Howbeit a good Husbandman will make his profit of them both: for if he haue one hundred, or one hundred and twenty Acres of this Wealdish arable, he will so marle and manure them, that diuiding his Land into five or sixe equall parts, he may continually plough twenty or five and twenty Acres for Corne, and yet lay to Pasture the rest by turnes: so that by the helpe of his *Marle*, his Land shall be continually rich and profitable, both in the one and other of them. And as thus I haue spoken of the Weald, describing the nature and property thereof: so may every man of discretion and iudgement, which shall meet with earth of the same quality and condition (in what part of this Kingdome soeuer) make application of these Rules before rehearsed, and no doubt but the profit will make both the labour and cost profitable and pleasant.

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*The*



The severall wayes, according to the opinions of Writers, and the certaine wayes according to the experience of Husbandmen, for the destruction of Moles or Moales, which digge and roote up the earth, and how to reduce and bring the ground to the first goodnesse, having bin spoyled by them.

**I**T is needlesse either to describe the nature and quality of this vermine, or the iniury and hurt which they do to the Husbandman, Gardener, and Planter, since no Countrey is exempt from their annoyance: but touching the remedies, they are of greater seceresie, and therefore I thought good in this place to insert them.

The ancient Writers are of diuers opinions touching the manner of destroying this creature, and therefore haue left vnto vs sundry Medicines how to worke the same amongst the which, one writeth, as an approued experiment, that if you take Walnut shels, and fill them with Brimstone, Chaffe, and Petre fm, and then setting them on fire, put them into holes or trenches, thorow which the Moale passeth, and the very smell or stinke thereof will poyson them; so that if you digge, you shall find them dead in their holes.

Another affirmeth, that if you take Brimstone, and danke stinking litter of horses, and burne it in the holes or haunts of the Moales, it also will impoyson them; so as you shall find they will come out of their caues, and lye dead vpon the greene grasse.

A third affirmes, that if you take greene Leekes, garlick, or onyons, and chopping them grossely, thrust it into the holes, and the very fume or saour thereof will so astonish and amaze the Moales, that they will presently forsake the earth, and falling into a trance, you

may take them vp with your hands. Now there is not any of these medicines which can be disallowed: for there is no doubt but that they will worke the effects spoken of, if the moale can be brought to take a full sent thereof: but it is a vermine curious of sent, and passing quicke of hearing, and being in a spacious ground, will preuent these baites; and therefore they are rather to be applied for gardens or little grounds, where there is but a moale or two, then in large fields, where there be many hundreds.

To conclude, for this matter of medicines, or for the helping of gardens, hop-yards, or any small spot of ground, there is not any thing held more auailable, then to sow in that place the hearbe called *Palma Christi*: for it is found by certaine experience, that wheresoeuer that hearbe groweth naturally of it selfe, or otherwise is either purposely sowne or planted, there in no wise will any moale abide.

Thus much I thought good to shew you for the vse of medicine, and for clearing of small grounds: now for the annoiances which happen to great, large, & spacious fields, through the multitude of moales; there is onely three absolute wayes for the curing of the same.

The first is, in the moneths of *March* and *Aprill*, to view where they cast, and go about to make an extraordinary great hill, in which they build them nests, which is knowne by the newnesse of the mold; then looke for the new trench which leadeth to the same; for as she goeth she returneth; then with your moale spade open the trench in diuers places, and then very still and silently, and obseruing to take the winde, to preuent both hearing and smelling, watch the Moale as she goeth or returneth, which is, Morning, Noone, and Eurning, and as

Coone



soone as you see her cast, strike her with your Moale-speare, made of many sharpe pikes, and so cast her vp, and kill her. Thus haue I scene by one man an hundred destroyed in one day.

The next infallible way for the destruction of Moales is: If you can by any possible meanes bring in water to ouerflow and wash your ground, and as soone as the earth is wet ouer, the Moales will come forth of themselves, and yo & may gather them vp with your hands at pleasure.

The last (in deed as much approued as any) is to take a liue Moale in the moneth of *March*, which is the bucking or ingendring time, & put it into a deepe brasse Bason, or other deepe smooth Vessell, out of which the Moale cannot creepe, and then at euening bury it in the earth vp to the brimme, and so leaue it, and the imprisoned Moale will presently beginne to shriek, or complaine or call, so that all the Moales in the ground will come to it, and tumbling into the Vessell, they are prisoners also, and the more prisoners, the greater will be the noise; and the more noise, the more moales will come to the rescue, so that I haue scene 50. or 60. taken in one night, and in one Vessell or brasse Kettle.

Now, hauing thus learned how to destroy the moals, it is meet you also know how to prevent the coming in of forraigne moales; because though you keepe your ground neuer so cleane, yet if your next neighbour be an ill Husband, his field may soone impoyson yours againe: therefore to prevent the coming in of any forraigne moale, make but little Furrowes or Trenches about your ground, and scatter in them small round Balls made of Hemp-seed, or Hemp-seede and *Palma Christi* beaten together, and you shall not neede to feare the

comming in of any neighbour Moales, how many focuer there be about you.

Lastly, for the reducing or bringing the ground to the first perfection againe (for howsoeuer some Husbandmen say, moe Moale-hills, more ground; yet tis certaine, that moe Moale-hills, lesse good ground) for neuer yet was sweete grasse seen on a Moale-hill; therefore to bring it to perfection, which I meane, to be meadow ground, or ground to be mowne, which Moale-hills cannot be: you shall first with a sharpe Paring-shoell, pare off the swarth about three fingers deepe, for feare of hurting the roots of the grasse; and then the swarth taken off digge away the rest of the mould, and scatter it as small as you can round about the Hill, then take the greene swarth, and cutting it artificially, lay it close, and fast, and leuell, where you tooke away the mould, as if there had neuer beene Hill there: and thus doe to all your Hills, though they be neuer so innumerable; and after all your ground is leuelled, as soone as the first shewre falleth, run all your ground ouer with a paire of backe-Harrowes, or an Harrow made of a Thorne-bush, and it will breake the mould as small as ashes, which will so comfort and refresh the root of the grasse, that it will grow in infinite abundance; and the sowrenesse which was caused by reason of the Hills, will come againe to a perfect sweetnesse, and the meadow will be more fruitfull then before by many degrees. And thus much for the destruction of Moales, and the reducing of the earth to his first goodnesse.

FINIS.





